

## National 4 Homework 21

### Questions 1,3 & 5 are Non Calculator

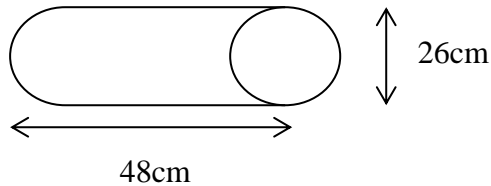
1. Solve for  $x$ :

a)  $12x - 7 = 3x + 20$

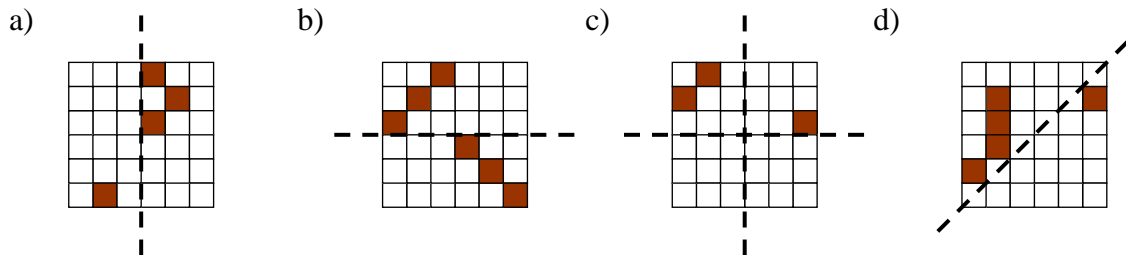
b)  $8x + 5 = -11$

c)  $4x + 3 < 39$

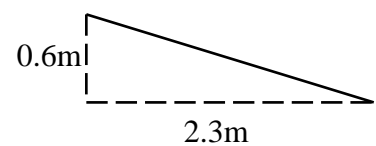
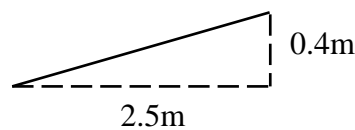
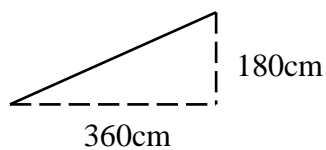
2. Calculate the volume of this cylinder. Round your answer to 3 significant figures.



3. Make accurate copies of each diagram and reflect in the line(s) of symmetry



4. Calculate the gradients of the following ramps. If a safe ramp must have a gradient between 0.3 and 0.45, which of these ramps would be considered safe?



5. Factorise:

a)  $15x + 18y$

b)  $18 - 12h$

c)  $8c - 24d$

d)  $12p + 3q - 15$

6. Debbie, Connor and Raj contribute £8, £4 and £3 respectively towards a prize draw ticket. They win the top prize of £4650. If they share the money in ratio of how much each of them paid in, how much should each of them receive?